



QUEEN ELIZABETH; HER PROGRESSES AND PUBLIC PROCESSIONS.



COSTUME OF QUEEN ELIZABETH WHEN YOUNG

PART THE THIRD.

EDUCATION OF ELIZABETH—HER LITERARY
ATTAINMENTS—HER PORTRAIT.

THE Princess Elizabeth, in common with her brother Edward and her sister Mary, received an excellent education; for this she was much indebted to her step-mother Catharine Parr, the last queen of Henry the Eighth. Her instruction was not confined even to what may be called the ordinary learning of the age; for it embraced the Greek language, which, though rapidly rising into cultivation, had not then become an object of general study. Her first master of the learned languages was William Grindal, a pupil of the eminent Roger Ascham; and in 1548, upon Grindal's death, Ascham himself was called to court

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to take his place. He had previously been employed in teaching Elizabeth, her brother Edward, and many other illustrious personages, the art "of writing a fair hand," an art in which he had attained great excellence, and in which, excellence was then highly valued on account of its rarity.

We have, from the pen of Ascham, a very interesting account of the course of study through which he led his illustrious pupil, and of the proficiency which she attained in learning; together with some remarks upon her manners and character at that early period of her life. It is contained in a letter which he wrote to a learned friend in the year 1550:

Never (he says), was the nobility of England more lettered than at present. Our illustrious King Edward, in

talent, industry, perseverance, and erudition, surpasses both his own years and the belief of men. Numberless honourable ladies of the present time, surpass the daughters of Sir Thomas More in every kind of learning. But amongst them all, my illustrious mistress, the lady Elizabeth, shines like a star, excelling them more by the splendour of her virtues and her learning than by the glory of her royal birth. In the variety of her commendable qualities I am less perplexed to find matter for the highest panegyric than to circumscribe that panegyric within just bounds. Yet I shall mention nothing respecting her but what has come under my own observation. For two years she pursued the study of Greek and Latin under my tuition; but the foundations of her knowledge in both languages were laid by the diligent instruction of William Grindal, my late beloved friend, and seven years my pupil at Cambridge.

The lady Elizabeth has completed her sixteenth year; and so much solidity of understanding, such courtesy united with dignity, have never been observed at so early an age. She has the most ardent love of true religion, and of the best kind of literature. The constitution of her mind is exempt from female weakness, and she is endued with a masculine power of application. No apprehension can be quicker than hers, no memory more retentive. French and Latin she speaks like English; Latin with fluency, and judgment; she also spoke Greek with me frequently, and moderately well. Nothing can be more elegant than her handwriting, whether in the Greek or Roman character. In music she is very skilful, but does not greatly delight.

He then gives an account of the different writings which were the object of her study under his tuition.

She read with me almost the whole of Cicero, and a great part of Livy: from these two authors, indeed, her knowledge of the Latin language has been almost exclusively derived. The beginning of the day was always devoted by her to the New Testament in Greek, after which she read select orations of Isocrates and the tragedies of Sophocles, which I judged best adapted to supply her tongue with the purest diction, her mind with the most excellent precepts, and her exalted station with a defence against the utmost power of fortune. For her religious instruction she drew first from the fountains of Scripture, and afterwards from St. Cyprian, the *Common Places* of Melancthon, and similar works which convey pure doctrine in elegant language. In every kind of writing she easily detected any ill-adapted or far-fetched expression. She could not bear those feeble imitations of Erasmus who bind the Latin language in the fetters of miserable proverbs; on the other hand, she approved a style chaste in its propriety and beautiful by perspicuity, and she greatly admired metaphors when not too violent, and antitheses when just and happily opposed. By a diligent attention to these particulars, her ears became so practised and so nice, that there was nothing in Greek, Latin, or English, prose or verse, which, according to its merits or defects, she did not either reject with disgust or receive with the highest delight.

Ascham's employment as tutor to the Princess Elizabeth lasted only two years, at the expiration of which he left her a little abruptly, in consequence of a distaste which he had taken to some persons in her household. "Of this precipitation," says Dr. Johnson, "he long repented; and as those who are not accustomed to disrespect cannot easily forgive it, he probably felt the effects of his imprudence to his death." He was restored, however, before long, to the favour of Elizabeth; and when she ascended the throne, he was appointed to the offices of secretary for the Latin tongue, and likewise tutor to her Majesty in the learned languages. In this latter capacity he was in the habit of constantly reading with her. In his *Schoolmaster*, he says,—

After dinner (at Windsor Castle, on the 10th of December, 1568), I went up to read with the Queen's Majesty; we read there together in the Greek tongue, as I well remember that noble oration of Demosthenes against *Æschines*, for his false dealing in his embassy to Philip of Macedon.

Elizabeth retained a great regard for her tutor to the last; and when she heard of his death she is said to have exclaimed, that "she would rather have thrown ten thousand pounds into the sea than have

lost her Ascham,"—an opinion which, considering her economical disposition, must be taken to express a very high estimate of his merits. Of the extent to which she profited by his instructions, and of the proficiency which she long retained in the Latin tongue, a memorable illustration was afforded when the Polish Envoy, whom she received in great state, addressed her in a Latin speech, and poured forth, in his master's name, a string of complaints instead of compliments—which caused the Queen, in her own phrase, to "scour up her old Latin which had so long lain rusting," to rebuke the "malapert orator," an operation which she performed, according to the testimony of persons present, with great effect.

Elizabeth's studious turn of mind, probably contributed much to that peculiar regard which her brother Edward felt for her, and which she reciprocated. "In tastes, feelings, pursuits, and religion," to use the words of Mr. Sharon Turner, "there was that congeniality of mind which most strongly attracts and perpetuates reciprocal affection."

Under Edward the Sixth, (says Sir Robert Naunton,) she was his, and one of the darlings of fortune, for besides the consideration of blood, there was between these two princes, a concurrence and sympathy of their natures and affections, together with the celestial bond (confirmative religion) which made them one; for the king never called her by any other appellation but his sweetest and dearest sister, and was scarce his own man she being absent; which was not so between him and the Lady Mary.

Camden tells us that she was in great grace and favour with her brother King Edward, "who called her by no other name than his *Sweet Sister Temperance*,"—as likewise in singular esteem with the nobility and people. "For she was of admirable beauty and well deserving a crown, of a modest gravity, excellent wit, royal soul, happy memory, and indefatigably given to the study of learning."

She wrote frequently to Edward; and though not many years older than himself, "strove to exhibit in her style some of the elaborate but least natural embellishments of literary composition." His affection for her led him to desire her portrait, though with the delicacy of inquiring if he might make the request; and she took some trouble to accompany it with the "artificial flowers of rhetorical diction." Her letter is an interesting specimen of her style:—

Like as the richeman that dayly gathereth riches to riches, and to one bag of money layeth a greater sort til it come to infinit, so methinks your Majestie, not being sufficed with many benefits and gentilities shewed to me afore this time, dothe now increase them in askings and desiring wher you may bid and commande, requiring a thinge not worthy the desiringe for it selfe, but made worthy for your Highnes request. My pictur I mene, in wiche if the inward good mynde towarde your grace might as wel be declared as the outward face and countenance shal be seen, I wold nor have taried the commandement, but preuent [prevented] it, nor have bine the last to graunt, but the first to offer it. For the face I graunt I might wel blusche to offer, but the mynde I shal never be ashamed to present. For thogh from the grace of the pictur the coulours may fade by time, may give by weather, may be spotted by chance; yet the other nor time with her swift winges shal ouertake, nor the mistie cloudes with ther loweringes may darken, nor chance with her slipery fote may overthrow. Of this althogh yet the profe coule not be greate because the occasions hath bine but smal, notwithstandinge as a dog hathe a day, so may I perchaunce have time to declare it in dices wher now I do write them but in wordes. And further I shal most humbly beseeche your Maiestie that when you shal loke on my pictur you wil witsafe [vouchsafe] to thinke that as you have but the outward shadow of the body afore you, so my inward minde wischeth that the body it selfe wer oftner in your presence; howbeit bicause bothe my so beinge I thinke coule do your Maiestie litel pleasur thogh my selfe great good; and againe bicause I se as yet not the time agreing therunto, I shal lerne to folow this

sainge of Orace [Horace] "Feras non culpes quod vitari non potest," [Bear not blame what cannot be avoided.] And thus I wil (troblinge your Maiestie I fere) ende with my most humble thankes, beseeching God longe to preserve you to his honour, to your comfort, to the realme's profit and to my joy. From Hatfild this 15 day of May,

Your Maiesties most humbly sistar,

ELIZABETH.

This letter very well illustrates the remark of her tutor Ascham, that she was a great admirer of metaphor and antithesis. Of the few letters which exist, from Elizabeth to her brother, there is another which commences in precisely the same elaborate manner.

Like as a shipman in stormy wether plukes downe the sailes tarijnge for better winde, so did I most noble kinge, in my unfortunate chanche a thurday pluk downe the hie sailes of my ioy and comfort, and do trust one day, that as troublesome waves have repulsed me bakwarde, so a gentill winde wil bringe me forwarde to my haven.

After her father's death, Elizabeth resided for some time with her step-mother, the Queen Dowager, who married the Lord Seymour of Sudley, the ambitious and unfortunate brother of the Protector Somerset. The palace of Hatfield was afterwards her residence; and in 1551, Edward granted to her the old abbey of Ashridge, which, at the dissolution of the monasteries, became a royal house. She occasionally visited her brother's court; and Strype records an instance of her riding through London in great state, to the palace of St. James:—

March 17, 1551. The lady Elizabeth, the king's sister, rode through London unto St. James's, the king's palace, with a great company of lords, knights, and gentlemen; and after her a great company of ladies and gentlemen on horseback, about two hundred. On the 19th, she came from St. James's through the park to the court; the way from the park-gate unto the court spread with fine sand. She was attended with a very honourable confluence of noble and worshipful persons of both sexes, and received with much ceremony at the court-gate."

A very curious memorial of the domestic affairs of the Princess Elizabeth, about this time, has been preserved—namely, the Household Book for a year, from the 1st of October, 1551, to the last day of September, 1552. It is entitled "Th' Accumpte of Thomas Parry Esquier, Couferor [Cofferer,] to the righte excellent Princesse the Ladie Elizabeth, her Grace the King's Majestie's most honorable Sister." Every page is signed at the bottom by the Princess herself.

The sum total of receipts, including the "remayne of the preceding year," amounts to 5791*l.* 1*s.* 3½*d.*, with the third part of a farthing. The total amount of the payments within the time of the accmpt, is 3629*l.* 18*s.* 8½*d.*; and there was left for the wants of the next year, a "remayne" of 1507*l.* 0*s.* 0½*d.*, a half farthing and the third part of a farthing, which sum is stated to have been delivered into her Grace's own hands upon the determination of this accmpt. The expenses of the house amounted to 3938*l.* 18*s.* 7*d.*; but deductions for "hides, felles, and intrails of the cattle," supplied 207*l.* 3*s.* 8½*d.* Under the Buttry and Cellar, great quantities of Beer are entered with "swete wine," "Raynyshe wine," and "Gascoigne wine." Board wages for servants are continually mentioned. Lamprey pies are once entered as a present.

The wages of household servants for a quarter of a year, amounted to 82*l.* 17*s.* 8*d.* The "lyveries" of velvet coats for xij gentlemen, at xl*s.* The lyveries of the yeomen to 78*l.* 18*s.* There is also a sum of 7*l.* 15*s.* 8*d.*, mentioned as "given in almes at sundrie times to poor men and women." Among the entries of the Chamber and Robes are the following:—

Paid to John Spithonius the xvijth of Maye, for bokes, and to Mr. Allin for a Bible, xxvi*s.* iij*d.*

Paid the thurde of November to the kepar of Herforde gayle for fees of John Wingfelde lying in ward, xij*s.* iij*d.*

Paid to Edmund Allin for a Bible xx*s.*

Paid the xiiijth of December to Blaunche Parry for her half yeris annuitie, c*s.*, and to Blaunche Qurtayne for the like, lxvi*s.* viij*d.*

Paid the xiiijth of December at the Cristening of Mrs. Pendred's childe as by warraunte doth appeare, l*s.*

Paid in reward unto sondrie persons at St. James, her Grace then being there, viz.:—The king's fotemen xl*s.* The under kepar of St. James x*s.* The Gardener v*s.* To one Russel, grome of the Kinge's great chamber x*s.* John Forman x*s.* To the Wardrobe xl*s.* The Violans xl*s.* A Frenchman that gave a boke to her Grace x*s.* The kepar of the Parke Gate of St. James x*s.* Mr. Staunfords servants xx*s.* The Lorde Russell's minstrells x*s.* In th' ole, as by warrant appereth, ixii. xv*s.*

Paid in reward to sondrie persons the xth of August, viz., to Farmer that plaid on the lute, xxx*s.* To Mr. Ashfelde servant, with ij prise oxen & x muttons, xx*s.* More, the harper, xxx*s.* To him that made her Grace a table of walnut-tree, xliij*s.* ix*d.* And to M. Cocke's servaunte which brought her Grace sturgeon, vj*s.* viij*d.*

Our engraving contains a portrait of Elizabeth, originally taken from a picture by Holbein, executed in the year 1551, when she was about eighteen years of age. A Venetian ambassador, who was in England a few years afterwards, in the report which, in conformity with the practice of his state, he presented to the Doge and Senate, thus describes her personal appearance:

She is a lady of great elegance, both of body and mind, although her face may rather be called pleasing than beautiful. She is tall and well made; her complexion, fine though rather sallow; her eyes, but above all her hands, which she takes care not to conceal, are of superior beauty.

Camden, as has been seen, describes her in her youth as being of "admirable beauty."

The simplicity of Elizabeth's costume in this portrait, offers a remarkable contrast to that fantastic style of decoration in which she afterwards delighted to display her person. Holbein was remarkably careful in preserving the features of costume, and we have other testimony to his correctness in this instance. "With respect to personal decoration," says her tutor Ascham, in the letter before quoted, "she greatly prefers a simple elegance to show and splendour, so despising the outward adorning of plaiting the hair and wearing of gold, that, in the whole manner of her life, she rather resembles Hippolyta than Phædra." Dr. John Elmer, or Aylmer, who was tutor to Lady Jane Grey and her sisters, and became Bishop of London in Elizabeth's reign, thus speaks of the taste of the princess in this respect when young, in a work entitled,—*A Harbour for faithful Subjects*.

The king left her rich clothes and jewels; and I know it to be true, that, in seven years after her father's death, she never in all that time looked upon that rich attire and precious jewels but once, and that against her will. And that there never came gold or stone upon her head till her sister forced her to lay off her former soberness, and bear her company in her glittering gayness; and then she so wore it as every man might see that her body carried that which her heart misliked. I am sure that her maidenly apparel, which she used in King Edward's time, made the noble-men's daughters and wives to be ashamed to be dressed and painted like peacocks, being more moved with her most virtuous example than with all that ever Peter or Paul wrote touching that matter. Yea, this I know, that a great man's daughter, (Lady Jane Grey,) receiving from Lady Mary, before she was queen, good apparel of tinsel, cloth of gold, and velvet, laid on with parchment-lace of gold, when she saw it said, "what shall I do with it?" "Marry," said a gentlewoman, "wear it." "Nay," quoth she, "that were a shame to follow my Lady Mary against God's word, and leave my Lady Elizabeth, which followeth God's word." And when all the ladies at the coming of the Scots' Queen Dowager, Mary of Guise, (she who visited England in Edward's time,) went with their hair frownsed, curled, and double curled, she altered nothing, but kept her old maidenly shamefacedness.

ILLUSTRATIONS OF THE BIBLE FROM THE
MONUMENTS OF ANTIQUITY.

No. VIII.

POTTERY AND GLASS MAKING.

THE art of pottery is closely connected with that of brick-making last described, and many allusions are made to the process by the sacred writers. Most of our readers have probably witnessed this interesting operation. A formless lump of clay is placed on a revolving stone; as the wheel turns, a mere touch of the finger suffices to give it shape, the same process



POTTER FORMING THE CLAY.

hollows the inside and forms the exterior. The simplicity of this plastic process compared with the beauty of the result, suggests a very vivid illustration of the Power which formed man out of the clay; thus Isaiah says, "But now, O Lord, thou art our father; we are the clay, and thou our potter; we all are the work of thy hand." (Isaiah Lxiv. 8). The lesson of our dependence on our Creator is also inculcated by a reference to the same imagery. "Woe unto him that striveth with his Maker! Let the potsherd strive with the potsherd of the earth. Shall the clay say to him that fashioneth it, What makest thou? or thy work, He hath no hands?" (Isaiah xlv. 9). A still more remarkable use of this illustration is in Jeremiah, where, under the type of a potter, God shows his absolute power in disposing of nations. "The word which came to Jeremiah from the Lord, saying, Arise, and go down to the potter's house, and there I will cause thee to hear my words. Then I went down to the potter's house, and, behold, he wrought a work on the wheels. And the vessel that he made of clay was marred in the hand of the potter: so he made it again another vessel, as seemed good to the potter to make it. Then the word of the Lord came to me, saying, O house of Israel, cannot I do with you as this potter? saith the Lord. Behold, as the clay is in the potter's hand, so are ye in mine hand, O house of Israel." (Jeremiah xviii. 1-6).

When the vessels were formed by the potter, they were burned or baked in a kiln. It will be seen from the accompanying engraving, that the fire was kindled at the bottom, and a great heat produced by the draft of hot air through a long and narrow chimney. Several of the vessels were broken in the manufacture, and these, when thrown into a heap, afforded shelter to snakes, reptiles, and disgusting insects, so that the phrase of "being among the potsherd" was frequently used in the East, to signify the lowest degree of degradation. This circumstance may, perhaps, explain a passage, usually regarded as one of the most difficult in the Psalms:—"Though ye have lien among the pots, yet shall ye be as the wings of a dove covered with silver, and her feathers with yellow gold." (Psalms lxxviii. 13).

It only remains to be added, that pottery among the Egyptians was a more honourable employment

than brick-making, and was not attended with such fatigue and injury to the constitution. The Egyptian potters were eminent for their artistic skill; their vases* are fully equal to the most beautiful specimens of Greece and Etruria; indeed, there is every reason to believe, that both these nations originally derived the art of pottery from Egypt.

One of the most remarkable inventions of a remote era, was the manufacture of glass, with which the Egyptians were acquainted more than three thousand years ago. Of this we have the clearest possible evidence, not only from numerous specimens of the articles themselves, found in the tombs, and among the ruins of the temples, but also from the painted representations of the processes of manufacture, preserved in the same situations, and from which the illustrations of the whole of this series of papers are copied. They were not only skilled in the art of fusing the materials, but also in the use of the blow-pipe, an invention so ingenious that its presence alone indicates a very high degree of civilization. The fusion of glass was closely connected with the art of pottery, for many of the vases and fictile ornaments are glazed over with a vitrified substance containing the proper proportions of the ingredients for making glass. It was generally believed by the ancients that Egypt produced a peculiar species of earth without which glass of the best quality could not be manufactured; it is not easy to discover the nature of this substance from the loose descriptions transmitted to us, but it is said that the beads and ornaments formed from it possessed all the lustre and brilliancy of the diamond. The specimens of Egyptian beads preserved in the different museums of Europe, show that this description is far from being exaggerated. In some of them colours are blended with more exquisite skill than in any specimens of modern art with which we are acquainted; and in others pieces of coloured glass are made to form beautiful mosaics, an art which is now so rarely practised on account of the great difficulty of finding a proper flux for the glass, that many writers have doubted the possibility of the process.

It is singular that glass beads, both round and oblong, were used by ladies in ornamental work so early as the days of Moses just as they are by modern embroiderers. The oblong beads, or as they are usually called, bugles, were strung into a great variety of fanciful patterns. In the Egyptian collection belonging to the king of the French, there is a lady's reticule formed of bugles, whose workmanship is of extraordinary beauty. The sacred beetle is a conspicuous ornament in the centre, and at the sides there are figures of stags, wrought with a life and spirit which could scarcely be expected from such a mechanical process.

The glass manufacturers were particularly skilful in the art of counterfeiting precious stones. Specimens of these are frequently found in the tombs, and we find that the artists were most successful in imitating the rich green of the emerald, and the brilliant purple of the amethyst. This manufacture of false stones seems to have been practised, not so much for the purposes of deception, as with the design of enabling persons in the middle and lower ranks of life to imitate, at a cheap rate, the luxuries of their superiors. The Jewellers in the following engraving are probably employed in preparing some of these factitious ornaments which were no where so common as in Egypt. Mr. Wilkinson, whose valuable and interesting work on the Domestic Manners of the Ancient Egyptians has been published since these papers were commenced, makes the following remarks on this subject:—

* See *Saturday Magazine*, Vol. VIII., p. 32.

Many false stones, in the form of beads, have been met with in different parts of Egypt, particularly at Thebes; and so far did the Egyptians carry this spirit of imitation, that even small figures, scarabæi, and objects made of ordinary porcelain, were counterfeited, being composed of still cheaper materials. A figure, which was entirely of earthenware, with a glazed exterior, underwent a somewhat more complicated process than when cut out of stone, and simply covered with a vitrefied coating; this last could therefore be sold at a low price: it offered all the brilliancy of the former, and its weight alone betrayed its inferiority; by which means, whatever was novel, or pleasing from its external appearance, was placed within reach of all classes; or, at least, the possessor had the satisfaction of appearing to partake in each fashionable novelty.

Such inventions, and successful endeavours to imitate costly ornaments by humbler materials, not only show the progress of art among the Egyptians, but strongly argue the great advancement they had made in the customs of civilized life; since it is certain, that until society has arrived at a high degree of luxury and refinement, artificial wants of this nature are not created, and the lower classes do not yet feel the desire of imitating their wealthy superiors, in the adoption of objects dependent on taste or accidental caprice.



JEWELLERS MAKING GLASS ORNAMENTS.

Though glass was principally used for fancy works, it was also employed in the manufacture of bottles, vases, and other utensils, but especially wine cups. In the later ages, when the Romans conquered Egypt, the use of glass vases nearly superseded those of gold and silver. Indeed, some of them were so exquisitely wrought, that they were more valuable than if they had been formed of the precious metals.

It is said that Alexander the Great was buried in a glass coffin, and there is no doubt that the Egyptian artists could have produced a vitrefied mass sufficiently large for the purpose. But it is more probable that the coffin, or sarcophagus, was only glazed over; because we find that it was not unusual to have a granite sarcophagus after it had been carved, covered with a coating of vitrefied matter, not very different from that used in the manufacture of our common green bottles. This process displayed the sculptures and hieroglyphics carved upon the granite with great clearness, while it preserved their point and finish safe from the injuries of time.

The porcelain of the Egyptians was a species of glass very similar to that invented in modern times by the celebrated Reaumur, who, almost within our memory, discovered the art of working glass into a substance not very unlike china-ware.

From the great beauty of the Egyptian glass-works, they were esteemed very highly in the remote ages. It is distinctly mentioned by Job, who calls it *Zekukith*, a word which our translators have rendered "crystal," because when their translation was made, the antiquity of glass had not been so decisively proved, as in our times. "The gold and the crystal cannot equal it (wisdom)." (Job xxviii. 17.)

The manufacture of caskets and other such articles of combined ornament and utility was very extensive; these, indeed, were, next to the linens and cottons, the most important exports from the valley of the Nile. Some were enamelled, others very elaborately carved and adorned with studs of metal. The peculiar style

of ornamental ordering on some of the caskets, and the spirit of the figures portrayed upon them, could scarcely be paralleled even by the best of our modern artists.



ANCIENT EGYPTIAN CASKET.

Connected with this branch of Egyptian manufactures, we may notice the seal-rings, many of which were made of glass, because the impressions could be carved more easily upon this substance than upon stone. Job speaking of the subjection of the earth to the Almighty, says "it is turned as clay to the seal," whence we find that even before the days of Moses, the process of taking impressions upon some soft substance with a seal was so common that it was used as a familiar illustration in a poem, whose date is probably anterior to the invention of alphabetic writing. The seal was worn as a ring upon the finger, or as the ornament of a bracelet; the former custom prevailed every where before the invention of watches, and is not yet wholly disused. In the Bible we find the seal of a king, or of a witness to an important deed, frequently substituted for the sign manual. Thus in the case of a royal decree, we read in the book of Esther, "Then were the king's scribes called on the thirteenth day of the first month, and there was written according to all that Haman had commanded unto the king's lieutenants, and to the governors that were over every province, and to the rulers of every people of every province according to the writing thereof, and to every people after their language; in the name of king Ahasuerus was it written, and sealed with the king's ring." Esther iii. 12. It will be remembered by most of our readers, that recourse was had in England to the same expedient when the increasing disease of his majesty George IV., rendered it impossible for him to affix his signature to papers of state. The seal in Eastern nations, indeed, is still frequently used as a stamp, being rubbed over with ink and then applied to the necessary document. The use of the seal by subscribing witnesses to bonds or deeds is mentioned by Jeremiah: "Men shall buy fields for money, and subscribe evidences, and seal them, and take witnesses in the land of Benjamin, and in the places about Jerusalem, and in the cities of Judah, and in the cities of the mountains, and in the cities of the valley, and in the cities of the south: for I will cause their captivity to return, saith the Lord." (Jeremiah xxxii. 44). The seal was also used, to detect whether any particular door of a box, safe, or building was opened without the owner's permission, and it was also applied to bags for the same purpose. Thus Job, "my transgression is sealed up in a bag, and thou sewest up mine iniquity." (Job. xiv. 17). It seems also probable that documents were frequently sealed up like modern wills, in order that they should not be opened until after a certain specified time. Thus in the visions of Daniel we read that the "celestial

personage" which was upon the waters of the river said to the prophet, "Go thy way, Daniel: for the words are closed up and sealed, till the time of the end" (Dan. xii. 9.); and Isaiah speaks of an obscure prophecy, as "the words of a book that is sealed." (Isaiah xxix. 11.)

The seal of a king was sometimes, as a mark of special favour, imprinted with ink or some other coloured material on the forehead or face of a person appointed to some especial dignity. Thus we read in the Gospel of St. John "Labour not for the meat which perisheth, but for that meat which endureth unto everlasting life, which the Son of man shall give unto you; for him hath God the Father sealed." (John vi. 27.) To this use of the seal there is a more remarkable allusion in the Book of Revelations: "And I saw another angel ascending from the east, having the seal of the living God: and he cried with a loud voice to the four angels, to whom it was given to hurt the earth and the sea, saying Hurt not the earth, neither the sea, nor the trees, till we have sealed the servants of our God in their foreheads." (Rev. vii. 2, 3.)

Amulets, *fetiches*, and other instruments of idolatry, were frequently made of glass or porcelain; and hence, in the second commandment, the prohibition is general, "thou shalt not make unto thyself any graven image," after which comes the special prohibition of images, "nor the likeness of anything that is in heaven above, or in the earth beneath." These small images, which were supposed to act as charms, were great temptations to idolatry, and we find that when Jacob fled secretly from Laban's house, that his favourite wife Rachel stole her father's domestic images, which must have been of small size from the ease with which they were concealed. "Now Rachel had taken the images and put them in the camel's furniture, and sat upon them. And Laban searched all the tent, but found them not." (Gen. xxxi. 34). It was probably to prevent this perversion of the glass manufacture, that the inspired lawgiver of the Hebrews did not make use of glass ornaments in the tabernacle, and that no effort was made to introduce the process into Judea.

TASTE FOR READING.

If I were to pray for a taste which should stand me in stead under every variety of circumstances, and be a source of happiness and cheerfulness to me through life, and a shield against its ills, however things might go amiss, and the world frown upon me, it would be a taste for reading. I speak of it, of course, only as a worldly advantage, and not in the slightest degree as superseding or derogating from the higher office and surer and stronger panoply of religious principles—but as a taste, an instrument and a mode of pleasurable gratification. Give a man this taste, and the means of gratifying it, and you can hardly fail of making a happy man, unless, indeed, you put into his hands a most perverse selection of books. You place him in contact with the best society in every period of history—with the wisest, the wittiest—with the tenderest, the bravest, and the purest characters who have adorned humanity. You make him a denizen of all nations—a contemporary of all ages. The world has been created for him. It is hardly possible but the character should take a higher and better tone from the constant habit of associating in thought with a class of thinkers, to say the least of it, above the average of humanity. It is morally impossible but that the manners should take a tinge of good breeding and civilization from having constantly before one's eyes the way in which the best-bred and the best-informed men have talked and conducted themselves in their intercourse with each other. There is a gentle, but perfectly irresistible coercion in a habit of reading well directed, over the whole tenour of a man's character and conduct, which is not the less effectual because it works insensibly, and because it is really the last thing he dreams of. It civilizes the conduct of men, and suffers them not to remain barbarous.—SIR JOHN HERSCHTEL.

ADVANTAGES OF A TASTE FOR NATURAL HISTORY.

WHEN a young person, who has enjoyed the benefits of a liberal education, instead of leading a life of indolence, dissipation, or vice, employs himself in studying the marks of infinite wisdom and goodness which are manifested in every part of the visible creation, we know not which we ought most to congratulate, the public or the individual.

Self-taught naturalists are often found to make no little progress in knowledge, and to strike out many new lights, by the mere aid of original genius and patient application. But the well-educated youth engages with these pursuits with peculiar advantage. He takes more comprehensive views, is able to consult a greater variety of authors; and, from the early habits of his mind, is more accurate and more methodical in all his investigations. The world at large, therefore, cannot fail to be benefited by his labours; and the value of the enjoyments which at the same time he secures to himself, is beyond all calculation. No tedious, vacant hour ever makes him wish for he knows not what—complain, he knows not why. Never does a restless impatience at having nothing to do, compel him to seek a momentary stimulus to his dormant powers in the tumultuous pleasures of the intoxicating cup, or the agitating suspense of the game of chance. Whether he be at home or abroad, in every different clime, and in every season of the year, universal nature is before him, and invites him to a banquet richly replenished with whatever can invigorate his understanding, or gratify his mental taste. The earth on which he treads, the air in which he moves, the sea along the margin of which he walks, all teem with objects to keep his attention perpetually awake, excite him to healthful activity, and charm him with an ever-varying succession of the beautiful, the wonderful, the useful, and the new. And if, in conformity with the direct tendency of such occupations, he rises from the creature to the Creator, and considers the duties which naturally result from his own situation and rank in this vast system of being, he will derive as much satisfaction from the anticipation of the future, as from the experience of the present, and the recollection of the past.

The mind of the pious naturalist is always cheerful, always animated with the noblest and most benign feelings. Every repeated observation, every unexpected discovery, directs his thoughts to the great Source of all order, and all good; and harmonizes all his faculties with the general voice of nature.

..... The men
Whom nature's works can charm, with God himself
Hold converse; grow familiar, day by day,
With His conceptions; act upon His plan,
And form to His the relish of their souls.

WOOD.

ON A PEACEABLE TEMPER AND CARRIAGE.

WE are obliged to these duties of humanity, upon account of common interest, benefit, and advantage. The welfare and safety, the honour and reputation, the pleasure and quiet of our lives are concerned, in our loving correspondence with all men.

For so uncertain is our condition, so obnoxious are we to manifold necessities, that there is no man, whose good will we may not need, whose good word may not stand us stead, whose helpful endeavour may not sometimes oblige us.

The great Pompey, the glorious triumpher over nations, and admired darling of fortune, was beholden at last to a slave for the composing his ashes, and celebrating his funeral obsequies. The honour of the greatest men depends on the estimation of the least, and the good will of the meanest peasant is a brighter ornament to the fortune, a greater accession to the grandeur of a prince, than the most radiant gem in his royal diadem.

It is but reasonable, therefore, if we desire to live securely, comfortably, and quietly, that by all honest means we should endeavour to purchase the good will of all men, and provoke no man's enmity needlessly; since any man's love may be useful, and every man's hatred is dangerous.

—ISAAC BARROW.

LIFE's evening, we may rest assured, will take its character from the day which has preceded it; and if we would close our career in the comfort of religious hope, we must prepare for it by early and continuous religious habit.—SHUTTLEWORTH.

ON WRITING MATERIALS.

NO. II. THE HISTORY OF STEEL PENS.

THE first attempt at the construction of Permanent Pens, appears to have consisted in arming the nibs of Turkey-quill pens with metallic points or nibs. As the friction of the quill pen upon the paper, and the softening produced by the ink, are the causes which wear away the nibs of ordinary pens, it is obvious that metal is better calculated to withstand these two influences than quill. But although the metallic nibs greatly increased the durability of the pen, it was at the expense of the elasticity of the quill; and since the durability of the metallic-nibbed pen was not adequate to its additional cost over the common quill pen, this method was soon abandoned.

In our "History of the Quill Pen," we have given a mode of cutting up the quill in the direction of its length, (as practised by Mr. Bramah,) whereby a great many pens could be formed out of one barrel. The object of this process was to prevent pen-mending, an operation which most writers feel to be an infliction.

Pens have been made, from time to time, out of horn and tortoise and other shells. These pens were of course more expensive than common quills, and nearly all of them more durable. Nibs have even been formed, somewhat successfully, of precious stones, the advantage of which is, that they are subject to no wear and corrosion. In 1823 Messrs. Hawkins and Mordan employed horn and tortoise-shell, which were cut into nibs, and softened in boiling water; small pieces of diamond, ruby, and other precious stones were then embedded into them by pressure. In this way were insured durability and great elasticity. In order to give stability to the nib, thin pieces of gold, or other metal, were affixed to the tortoise-shell. Pens somewhat similar were formed by Mr. Doughty; his nibs were rubies set in fine gold. With these pens a person could write as finely as with a crow-quill, or as firmly as with a swan-quill, or the two modes might be combined. These pens possessed considerable elasticity, and by their means an uniform manuscript, unattainable by means of ordinary pens, could be produced. Pens of this construction have been in constant use for upwards of six years, and at the end of that time exhibited no signs of wear, they were as perfect then as ever. In using them, however, care is necessary to preserve the nibs from contact with hard bodies; they require occasional washing with a brush in soap and water. Mr. Doughty states that, although they are costly at first, yet, in the end, they will be found economic, on account of their permanency. To prevent injury to the points, in the act of dipping this pen into an ink-stand, Mr. Doughty lines the interior of his elegant ink-stands with India-rubber, or places a bottle of that material within the stand to contain the ink.

Dr. Wollaston also constructed pens from two flat slips of gold, placed angularly side by side, and which were tipped with the metal rhodium; others have employed the metal iridium; but these pens have been abandoned on account of their expense, and the great care necessary to their preservation. These pens were, however, very durable, though not equal to the ruby nibs.

Many of the pens to which we have alluded, were sadly deficient in that indispensable quality, elasticity. To supply a remedy to this defect, it was proposed to place springs on the backs of such pens, sliding backwards and forwards, to vary the elasticity according to the different hands required in writing. This plan was somewhat successful, but a great objection

was, that the ink drying upon the pen, in a great measure neutralized the action of the spring.

Metallic pens appear to have been introduced into various seminaries, from time to time as rarities, among writing materials; they were given as prizes, rewards for merit, &c. But the first mention that we find of *steel pens* for writing, is in 1803, when Mr. Wise constructed barrel-pens of steel, mounted in a bone case for convenience of carrying in the pocket. These pens were very dear, and produced to their inventor but a scanty income. For many years, however, Wise's pens were the only steel pens that could be had, and by means of great activity in "pushing a sale" of them, they were to be had at almost every stationer's shop in the kingdom.

About twelve years ago, the celebrated Perryan pens first appeared. Mr. Perry may be regarded in the light of a great improver; many of his pens are ingenious and original in construction. He arranges his pens into genera and species, advertises their beauties and their merits in prose and rhyme, and has thus, not altogether undeservedly, acquired fame and renown, and, we doubt not, profit, to which, years ago, a mere pen-maker would not have aspired. Mr. Perry first overcame the rigidity complained of in steel pens generally, by introducing apertures between the shoulder and the point of the pen; thus transferring the elasticity of the pen to a position below instead of above the shoulder. This was the object of his patent of 1830. In 1832 further improvements suggested to him the propriety of seeking a second patent, which he obtained for a pen now bearing the odd cognomen of "The Double Patent Perryan Pen." Perry's "Regulating Spring Pen" is furnished with a sliding spring, which increases or diminishes its flexibility, according as it is placed farther from or nearer to the point. In another case, Mr. Perry employs a thread of India-rubber round the nibs of his pens, the yielding of which allows the points to open in proportion to the pressure.

One of the most extensive manufacturers of steel pens is Mr. Joseph Gillott, of Birmingham. This gentleman employs three hundred pairs of hands, and consumes fifty tons of steel annually. Now one ton of steel is sufficient to make about two millions of pens; hence this manufacturer alone furnishes about one hundred millions of pens annually.

The kind of pen made by Mr. Gillott is similar to the original pen by Wise. The improvement of the modern maker consists in employing metal of a better quality, and in a thinner and more elastic state; in making the slit shorter, and in carefully attending to the finish and temper of the metal. These improvements have been attended with such a reduction in price, that a gross is now sold for very little more than was formerly charged for one of Wise's pens.

The common "Three-slit Pen" has long been, and still is, a favourite with steel pen writers. Its peculiarity consists in having a slit on each side of the central slit, the elasticity being thereby much increased.

The nibs of all pens increase in breadth by use, so that steel, as well as quill pens, require mending, or rejecting for a new one. The difference is a question of time, for while a quill pen will increase in breadth in an hour, the steel pen may be used for many days without the necessity of mending or rejection. But steel pens may be mended by means of a fine file or an oil-stone, by which the nibs can be brought to points sufficiently acute for the purposes of the writer; but the present low price of steel pens renders it very questionable, whether the time employed in mending them would not be thrown away.

Mr. Gillott has taken out a patent for an improved

pen, the object of which is to remedy the defect complained of, that the nibs increase in breadth by use. In the new pen, the nibs are made parallel-sided for about one-eighth of an inch long, the remaining portion being cut in the usual curved manner, so that one-eighth of an inch may be worn away without increasing the breadth of the nibs. We have not used any of these pens, but it occurs to us, that by the above means the equable opening and closing of the nib during writing cannot be insured, that the ink would not flow down in sufficient quantity, and that unless the pen were held in one particular direction, the equal wearing away of the nibs would not occur. We should rather fear that the pen would often act the part of a chisel, and dig into the paper instead of moving over its surface; but these objections are offered without ever having used the pen which suggests them.

The oblique position in which the pen is held induced Messrs. Mordan and Brockeden, in 1831, to make their *oblique* pens, in order that the two sides of the nib should bear equally on the paper. The form of this pen is that of a bird's head and bill; the slit, or mouth of the bird, is the part employed in writing, and this slit is inclined, at an angle of 35° , to the general direction of the pen. They hold a great deal of ink, and their use is pleasant to the writer.

Other pens, called *Lunar* Pens, have been adopted. Their under surface being large and concave, a great portion of ink is taken up by them, and thus the writer's time is economized.

Mr. Gowland has invented a pen with an additional nib, called the "Three-nibbed Slit Pen." The additional nib is formed by cutting it out of the shank, and turning it back over the nibs. This pen is manufactured by Mordan, as also "Mordan's Counter-oblique Pen." Both these pens hold much ink, and the awkward appearance of obliquity in the bird's-head pen is removed, while, at the same time, the oblique effects are preserved.

There are many other forms of steel pens, which we need not stop to describe, since the examples already given will afford to the reader a sufficiently accurate idea of their forms and uses. We proceed, therefore, to perhaps the most interesting portion of this article, viz., the processes by which steel pens are manufactured.

The steel with which the pens are made is rolled into very thin plates; it is then cut into slips, about four inches broad and three feet long, then annealed for fourteen hours, and again submitted to the roller; the thickness of these bands is not more than $\frac{1}{16}$ th of an inch. The bands are then passed under a stamping-press, and pieces of the proper size for the pens are cut out with great rapidity. These pieces are called *blanks*, or *flats*, and are so cut out, that the fibres of the steel shall run in the direction of the length of the pen. The blanks are now submitted to the action of a hardened steel punch and matrix, of the exact size and shape of the pen, and which are attached to a powerful fly-press. The pens are then softened by being put into an iron box containing tallow; this box is placed in a furnace and equally heated. When the box is withdrawn, the pens are emptied upon hot ashes and covered with the same, and so allowed to cool gradually; by this means they are sufficiently soft for the subsequent processes. They are then marked for the slits; this is done by means of an extremely fine-edged chisel, brought down separately upon each pen, and so admirably adjusted that two-thirds only of the substance of the pen is cut through. The edge of this chisel is finer than any razor, but much harder, because it

will perform its office for a whole day without renewing its edge; this superior quality is given to the steel by hammering it for several hours. This is an important fact, and seems to have been discovered by the pen-makers. When the other slits and openings have been made, and the maker's name stamped, the next operation is called *dishing*, by which the proper shape is given to the pens by means of a metallic punch and die, accurately fitting each other, the two being the exact form of the pen.

The pens are now hardened by being heated to redness, and being then plunged into cold oil, which must be at least three feet deep. The oil in a few weeks loses its properties and becomes charred. The next operation is cleaning and polishing; this is effected by a very curious machine. It consists of a tin cylinder, eight or nine inches in diameter, and three feet long, with a hole in the middle of its length, for putting in and taking out the pens, which hole is covered by a lid. This cylinder is hung on joints at each end to cranks, formed one on each of two axles furnished with a fly-wheel, and one of them with a handle. As this latter is turned, the cylinder is thrown up and down and backwards and forwards, and the pens are agitated in a manner similar to materials shaken in a bag. This motion is continued for eight hours, when many thousands of pens, by rubbing against each other, are found to be entirely deprived of any roughness which might have otherwise existed on them, and which, though invisible to the eye, might offer serious impediments to free writing. They are now tempered by being placed on a furnace-plate, and as soon as they have acquired a bright blue colour they are removed; this colour indicates the best temper for the pens, and is due to a thin film of oxide formed on the surface; were they heated in vacuo, or in any medium containing no oxygen, the blue colour would not appear. The last operation consists in cracking the slits, which is done by pressing the nibs suddenly with a pair of pincers; the slit, which was cut only two-thirds through, then suddenly opens.

It is calculated that the total quantity of steel employed in this manufacture, amounts to 120 tons per annum, from which upwards of 200,000,000 of pens are produced.

There is, however, a considerable waste of material in this branch of art. The pieces of steel cut out of the pens cannot be applied to any use; it is so thin that it cannot be welded, and it cannot be melted, because it takes fire and burns, in consequence of access of air between the thin pieces.

It is a cheering statement, that in spite of the immense consumption of steel pens, the demand for quills has not abated, but, on the contrary, is on the increase. This is to be accounted for by considering that, within the last few years, population has greatly increased, and that by the diffusion of the refining influence of education, that class of persons now can write which twenty years ago was altogether illiterate. Besides this, the Continent and America are supplied by us with steel pens. When first introduced, they were as high as 8s. per gross, then they fell to 4s., and now they are manufactured at Birmingham at so low a price as *four-pence* per gross! As yet, it appears that the only branch of trade that has suffered by the introduction of steel pens is the cutlery trade: pen-knives are in less requisition than formerly.

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